Applicant notes that the Office Action Summary does not acknowledge the claim for foreign priority and does not indicate whether the priority document has been received. Applicants note, however, that the Notification of Acceptance of Application Under 35 U.S.C. 371 and 37 C.F.R. 1.494 or 1.495 mailed on December 13, 2001 indicates receipt of the priority document. Applicant respectfully requests that the Examiner acknowledge the claim for foreign priority and acknowledge receipt of the priority document.

Applicant thanks the Examiner for considering the Information Disclosure Statement, PTO 1449 Form and disclosed references.

With respect to claims 22 to 44 being rejected as non-enabling under the first paragraph of 35 U.S.C. § 112, the rejections are not understood. In any event, the specification plainly provides that the electrode lead of the electrochemical sensor of claims 22 to 44 may include a material having relatively little or no ionic conductivity, and less resistance, as compared to the material of the corresponding electrode material. In this regard, the present application provides, for example, that:

> In the exemplary embodiment for the broadband probe (Figure 2), internal pump electrode lead 32 and/or reference electrode lead 22 are produced using Al_2O_3 as the ceramic component to reduce the lambda=1-ripple. In comparison with the ZrO_2 stabilized with Y_2O_3, which is suitable as the ceramic material for electrode 21, 31, the Al_2O_3 possesses no ionic conductivity. As a result, there is no ionic conduction between electrode leads 22, 32, thereby increasing the internal resistance in this region.
>
> A further exemplary embodiment of a broadband probe (Figure 2) is that to reduce the drop in pump voltage in the lead region, external pump electrode lead 41 features a material having a low resistance in comparison with the material of external pump electrode 40. This is achieved in that the proportion of electrically conductive material, e.g. platinum, is higher in the cermet material of external pump electrode lead 41 than in external pump electrode 40.

(Specification, page 5, line 27 to page 6, line 5). Hence, the material of the electrode lead of the electrochemical sensor of claims 22 to 44 may be exemplified by a cermet material having a ceramic component with little or no ionic conduction (e.g., Al_2O_3) and a metallic component (e.g., platinum) whose proportion with respect to the ceramic component is greater than a metallic/ceramic proportion of the corresponding electrode cermet material. It is therefore respectfully submitted that the subject matter of the claims is described in the

Specification so as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the claimed subject matter.

With respect to the asserted confusion regarding the paragraph beginning on page 2, line 27, of the Specification, it has now been rewritten as follows:

> <u>An exemplary embodiment and/or exemplary method of the</u> present invention [achieves] <u>provides</u> that the internal resistance <u>of a solid electrolyte body in a lead region</u> between the electrode leads situated on [a] <u>the</u> solid electrolyte body is significantly higher than <u>the internal resistance of the solid electrolyte body in a measuring region</u> [that] between the <u>corresponding</u> electrodes [in question]. Thus, the contribution to the total resistance made by the internal resistance in the lead region of the solid electrolyte body, which is connected in parallel to the internal resistance in the measuring region of the solid electrolyte body, is significantly reduced.

Approval is respectfully requested. No new matter has been added.

Also in this regard, it is respectfully submitted that the Office Action's assertions and arguments presented simply do not reflect the standard for determining whether a patent application complies with the enablement requirement that the specification describe how to make and use the invention -- which is defined by the claims. (<u>See</u> M.P.E.P. § 2164). The Supreme Court established the appropriate standard as whether any experimentation for practicing the invention was undue or unreasonable. (<u>See</u> M.P.E.P. § 2164.01 (citing <u>Mineral Separation v. Hyde</u>, 242 U.S. 261, 270 (1916); <u>In re Wands</u>, 858 F.2d. 731, 737, 8 U.S.P.Q.2d 1400, 1404 (Fed Cir. 1988))). Thus, the enablement test is "whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation." (<u>See</u> <u>id.</u> (citing <u>United States v. Teletronics, Inc.</u>, 857 F.2d 778, 785, 8 U.S.P.Q.2d 1217, 1223 (Fed. Cir. 1988))).

The Federal Circuit has made clear that there are many factors to be considered in determining whether a specification satisfies the enablement requirement, and that these factors include but are not limited to the following: the breadth of the claims; the nature of the invention; the state of the prior art; the level of ordinary skill; the level of predictability in the art; the amount of direction provided by the inventor; the existence of working examples; and the quantity of experimentation needed to make or use the invention based on the disclosure. (<u>See</u> <u>id.</u> (citing <u>In re Wands</u>, 858 F.2d at 737, 8 U.S.P.Q.2d at 1404 and 1407)). In this regard, the Federal Circuit has also stated that it is "improper to conclude that a disclosure is

not enabling based on an analysis of only one of the above factors," and that the examiner's analysis must therefore "consider all the evidence related to each of these factors" so that any nonenablement conclusion "must be based on the evidence as a whole." (See M.P.E.P. § 2164.01).

Also, an examiner bears the initial burden of establishing why the "scope of protection provided by a claim is not adequately enabled by the disclosure." (See id. (citing In re Wright, 999 F.2d 1557, 1562, 27 U.S.P.Q.2d 1510, 1513 (Fed. Cir. 1993))). Accordingly, a specification that teaches the manner and process of making and using an invention in terms that correspond in scope to those used in describing and defining the claimed subject matter complies with the enablement requirement. (See id.).

In contrast to the above, however, it is respectfully submitted that the Office Action's unsupported assertions do not adequately concern – as they must under the law -- whether the present application enables a person having ordinary skill in the art to practice the claimed subject matter of the claims without undue experimentation -- which it plainly does, as evidenced, for example, by the above reference to the present application. In short, the Office Action's assertions are merely conclusory and do not address the issue of whether one having ordinary skill would have to unduly experiment to practice the claimed subject matter of the rejected claims -- a proposition for which the Office bears the burden of proving a prima facie case as to the rejected claims.

In this regard, to properly establish enablement or non-enablement, the Office must make use of proper evidence, sound scientific reasoning and the established law. In the case of Ex Parte Reese, 40 U.S.P.Q.2d 1221 (Bd. Pat. App. & Int. 1996), a patent examiner rejected (under the first paragraph of section 112) application claims because they were based on an assertedly non-enabling disclosure, and was promptly reversed because the rejection was based only on the examiner's subjective belief that the specification was not enabling as to the claims. In particular, the examiner's subjective belief was simply not supported by any "evidence or sound scientific reasoning" and therefore ignored recent case law -- which makes plain that an examiner (and not an applicant) bears the burden of persuasion on an enablement rejection.

More particularly, the examiner in Ex parte Reese was reversed because the rejection had only been based on a conclusory statement that the specification did not contain a sufficiently explicit disclosure to enable a person to practice the claimed invention without exercising undue experimentation -- which the Board found to be merely a conclusory

statement that only reflected the subjective and unsupported beliefs of a particular examiner and that was not supported by any proper evidence, facts or scientific reasoning. (See id.). Moreover, the Board made clear that it is "incumbent upon the Patent Office . . . to back up assertions of its own with acceptable evidence," and also made clear that "[where an] examiner's 'Response to Argument' is not supported by evidence, facts or sound scientific reasoning, [then an] examiner has not established a *prima facie* case of lack of enablement under 35 U.S.C. § 112, first paragraph." (See id. at 1222 & 1223; italics in original). In the present case, the Office Action has not even alleged in a conclusory way that undue experimentation would be required. Moreover, even as to the assertions as presented, the present application plainly discloses how to use the subject matter of the rejected claims, as explained above.

In view of all of the foregoing, it is believed and respectfully submitted that the Office Action's assertions to support the rejections of the claims do not satisfy the judicial standards discussed above with respect to the enablement since the arguments and assertions presented do not relate the scope of the claims to the specification to determine whether the specification is enabling, nor do they properly address the enablement factors. It is therefore respectfully submitted that the Office Action has not even established a prima facie case as to the enablement requirement.

It is therefore respectfully requested that the enablement rejections be withdrawn for the above reasons.

Claims 22 to 44 were rejected as indefinite under the second paragraph of 35 U.S.C. § 112. Claim 22 has been rewritten to better clarify its subject matter and to exclude the scenario raised by the Examiner in which the overall conductivity of the electrode lead is greater that the overall conductivity of the electrode. It is therefore respectfully requested that the definiteness rejection of claim 22 (and its dependent claims) be withdrawn.

Claim 33 has been rewritten to better clarify its subject matter and to exclude the scenario raised by the Examiner in which the overall resistance of the electrode lead is greater than the overall resistance of the electrode. It is therefore respectfully requested that the definiteness rejection of claim 33 (and its dependent claims) be withdrawn.

As regards claim 44, it is respectfully submitted that claim 44 is definite as presented for essentially the same reasons explained above as to the enabling argument, in which the Specification (page 5, line 27 through page 6, line 5) was cited as plainly supporting an exemplary material of the electrode lead having relatively little or no ionic conductivity, and less resistance, as compared to the corresponding electrode material. It is therefore

respectfully requested that the definiteness rejection of claim 44 (and its dependent claims) be withdrawn.

As regards claims 27, 32, 38, and 43, these claims have been rewritten to better clarify the subject matter of the claims. It is therefore respectfully requested that the definiteness rejections of these claims (and any dependent claims) be withdrawn.

Claims 22, 23, 25, 27, 28, 31 to 34, 36, 38, 39, and 42 to 44 were rejected under 35 U.S.C. § 102(b) as anticipated by Kato et al., United States Patent No. 4,668,375 (the "Kato reference").

The Kato reference purports to relate to an improvement of an electric connection terminal for a sensor element, in which the connection terminal is made from at least two layers laminated on the sensor substrate. Because the lowermost layer contains ceramics or glass, a bonding force between the connection terminal and the sensor substrate, consisting of mainly ceramics, is purportedly improved and therefore a peeling-off of the connection terminal from the sensor substrate due to repeated heated and cooling of the sensor element and/or friction of the contacting elements of the connector socket against the connection is purportedly prevented. Also, because the upper layers each have a metal content higher than the layer just below, the contact resistance between the connection terminal and the contacting element of the connector socket is purportedly decreased. (See Kato, Abstract; col. 2, lines 49 to 65; col. 8, lines 36 to 57).

As may be indicated in Figures 1 to 4 of the Kato reference, the connection terminal may be realized by applying one or more connection terminal layers directly on or next to electrode leads 13, 15, which extend distally from a measuring electrode 11 and a standard electrode 12 of the sensor element 1. (See Kato, Abstract, Figures 1 to 4 and related text). In one embodiment, connection terminal upper layers 18, 19, are applied directly on the left ends 16, 17 of the electrode leads 13, 15. In another embodiment, a portion of the left ends 16, 17 of the electrode leads 13, 15 directly beneath the connection terminal upper layers 18, 19 is removed to accommodate connection terminal lower layers 31, 32 applied directly to the sensor substrate 2. (See Kato, col. 4, lines 43 to 47; col. 6, lines 14 to 26). As stated in Kato, the lamination of the connection terminal upper layers 18, 19 on the connection terminal lower layers 31, 32 "produce[s] another structure of the sensor element" and the "bonding force at the connection terminal can be improved greatly without varying resistance values of the leads 13 [and] 15". (Kato, col. 6, lines 23 to 30).

Accordingly, the Kato reference does not identically describe an electrode lead including a material that possesses no ionic conductivity or an ionic conductivity that is

significantly less than that of a material of the at least electrode so that an internal resistance of the ion-conducting solid electrolyte body in a lead region of the sensor is significantly greater than an internal resistance of the solid electrolyte body in a measuring region of the sensor, as recited in the context of claim 22, or an electrode lead including a material having a low resistance in comparison with a material of the at least one electrode so that a resistance of the electrode lead is significantly greater than a resistance of the electrode, as recited in the context of claim 33, or a combination of these features as recited in the context of claim 44.

While the Office Action asserts that "electrode 11 ... presumably has the same metal content as portions 13, 16" and that "[connection terminal lower] layer 31 can be regarded to be the electrode, while layer 13 [sic], with the higher metal content, would be the lead", it is believed and respectfully submitted that any review of the Kato reference plainly reveals that a relative metal content of the electrode as compared to the electrode lead is not identically described (or even suggested) and that the connection terminal lower layer 31 is not acting, nor intended to act, as the electrode. Indeed, the Office Action admits that the Kato reference did not intend layer 31 to be an electrode.

To the extent that the Examiner maintains these unsupported assertions -- statements that are apparently within the personal knowledge of the Examiner, it is respectfully requested pursuant to 37 C.F.R. § 1.104(d)(2) that the Examiner should provide an affidavit and/or published information concerning these assertions. This is because the rejection is apparently based on assertions that draw on facts within the personal knowledge of the Examiner, since no real support has been provided for these otherwise conclusory assertions.

Accordingly, since the features of claims 22, 33, and 44 are plainly not identically described -- as they must be for anticipation -- by Kato, it is respectfully submitted that these claims are not anticipated and therefore are allowable.

Claims 23, 25, 27, 28, 31, and 32 depend from claim 22, and are therefore allowable for at least the same reasons that claim 22 is allowable.

Claims 34, 36, 38, 39, 42, and 43 depend from claim 33, and are therefore allowable for at least the same reasons that claim 33 is allowable.

With regard to the rejection of claims 26 and 37 under 35 U.S.C. § 103(a) as unpatentable over Kato, it is respectfully submitted that the critical deficiencies of the Kato reference (as explained above) with respect to either claim 22, from which claim 26 depends, or claim 33, from which claim 37 depends, have not been overcome. It is therefore respectfully submitted that claim 26 is allowable for the same reasons as claim 22, and that claim 37 is allowable for the same reasons as claim 33.

As further regard the obviousness rejections of claims 26 and 27, to reject a claim as obvious under 35 U.S.C. § 103, the prior art must disclose or suggest each claim element and it must also provide a motivation or suggestion for combining the elements in the manner contemplated by the claim. (See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990)). Thus, the "problem confronted by the inventor must be considered in determining whether it would have been obvious to combine the references in order to solve the problem." (See Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 679 (Fed. Cir. 1998)). It is respectfully submitted that the Office Action's "analysis" simply does not reflect the foregoing since it does not demonstrate that a ceramic component of the Kato electrode is disclosed as containing 20% by volume ZrO_2 stabilized with Y_2O_3 as recited in claims 26 and 37.

The cases of In re Fine, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988), and In re Jones, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992), also make plain that a subjective "obvious to try" standard is not proper. In particular, the Court in the case of In re Fine stated that:

> Instead, the Examiner relies on hindsight in reaching his obviousness determination. . . . **One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.**

In re Fine, 5 U.S.P.Q.2d at 1600 (citations omitted; emphasis added). Likewise, the Court in the case of In re Jones stated that:

> Conspicuously missing from this record is any evidence, other than the PTO's speculation (if it be called evidence) that one of ordinary skill . . . would have been motivated to make the modifications . . . necessary to arrive at the claimed [invention].

In re Jones, 21 U.S.P.Q.2d at 1943 & 1944 (citations omitted). In short, there must be evidence of why a person having ordinary skill in the art would be motivated to modify a reference to provide the claimed subject matter of the claims.

It is therefore respectfully submitted that claims 26 and 37 rejected as obvious are allowable for the above reasons over the reference relied upon, and the obviousness rejections of claims 26 and 37 should therefore be withdrawn.

With regard to the rejection of claims 24 and 35 under 35 U.S.C. § 103(a) as unpatentable over Kato in view of Radford et al., United States Patent No. 3,843,400 ("the Radford reference") or Haecker et al., United State Patent No. 4,283,441 ("the Haecker

reference"), it is respectfully submitted that even if it were proper to combine the references as suggested (which is not conceded), it is respectfully submitted that the secondary Radford and Haecker references do not cure the critical deficiencies of the Kato reference (as explained above) with respect to either claim 22, from which claim 24 ultimately depends, or claim 33, from which claim 35 ultimately depends. Indeed, the Office Action does not assert that they do. It is therefore respectfully submitted that claim 24 is allowable for the same reasons as claim 22, and that claim 35 is allowable for the same reasons as claim 33, and therefore the obviousness rejections of claims 24 and 35 should be withdrawn.

With regard to the rejection of claims 27 and 38 under 35 U.S.C. § 103(a) as unpatentable over Kato in view of Schnaibel et al., United State Patent No. 6,346,277 ("the Schnaibel reference"), it is respectfully submitted that the Schnaibel reference is inappropriate as a basis for an obviousness rejection against any claim of the present application. Under 35 U.S.C. § 103(c), subject matter developed by another person, which qualifies as prior art only under one or more subsections (e), (f), and (g) of section 102 shall not preclude patentability under 35 U.S.C. § 103 where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. The Schnaibel reference, based upon the August 20, 2002 issue date and the February 9, 1999 filing date, is assigned on its face to Robert Bosch GmbH and would only qualify on its face as a prior art reference against the present application under 35 U.S.C. § 102(e). Like the Schnaibel reference, the present application is assigned to Robert Bosch GmbH. In particular, the assignment for the present application was recorded in the United States Patent and Trademark Office on November 26, 2001 at Reel 12321, Frame 979. Accordingly, the Schnaibel reference cannot be used in an obviousness rejection against any claim of the present application, in view of 35 U.S.C. § 103(c). It is there respectfully submitted that the obviousness rejections of claims 27 and 28 should be withdrawn.

With regard to the rejection of claims 30 and 41 under 35 U.S.C. § 103(a) as unpatentable over Kato in view of Iino et al., United States Patent No. 4,943,330 ("the Iino reference") or Kojima et al., United State Patent No. 5,895,591 ("the Kojima reference"), it is respectfully submitted that even if it were proper to combine the references as suggested (which is not conceded), the secondary Iino and Kojima references do not cure the critical deficiencies of the Kato reference (as explained above) with respect to either claim 22, from which claim 30 depends, or claim 33, from which claim 41 depends. Indeed, the Office Action does not assert that they do. It is therefore respectfully submitted that claim 30 is allowable for the same reasons as claim 22, and that claim 41 is allowable for the same

reasons as claim 33. Accordingly, the rejections of claims 30 and 41 under 35 U.S.C. § 103(a) should be withdrawn.

Claims 22 and 32 were rejected under 35 U.S.C. § 102(b) as anticipated by Friese et al., United States Patent No. 5,662,786 (the "Friese '786 reference") or Friese et al., United States Patent No. 5,435,901 (the "Friese '901 reference").

The Friese '786 reference purports to concern an electrochemical sensor having a tube 7 made of a solid electrolyte, a flange 5 provided at the open end O of the tube 7, an inner electrode 8 present on an interior surface of the tube 7, an outer electrode 1 coating the closed end C of the tube 7, and a connector strip 2 connected to the outer electrode 1 and extending toward the open end O of the tube 7. (See Friese '786, Abstract, Figures 1 and 2 and related text). The connector strip 2 is hermetically covered by a substantially pore-free cover layer 3 so that a fault-free operation of the sensor is possible, even in very rich exhaust gases at high temperatures. (See Friese '786, col. 2, lines 10 to 14).

The Friese '901 reference purports to concern an electrochemical measuring sensor having a base body 1 made of an ion-conducting solid electrolyte in the form of a tube closed at one end, an outer electrode 2 disposed on an external surface of the base body 1 in the vicinity of the closed end, an elongated conductor track 3 having a connection side covered by a covering layer 4, a ceramic protective layer 5 brought down on the reference side of the sensor to below a metallic sealing ring 6 for sealing the reference space from the exhaust gases and for making an electrical contact at contact areas 7 to a housing in which the sensor is to be inserted. (See Friese '901, Abstract, Figures 1 and 2 and related text). This arrangement is supposed to significantly prolong the service life of the measuring sensor. (See Friese '901, Abstract).

It is respectfully submitted that the Friese '786 and Friese '901 references do not identically describe an electrode lead including a material that possesses no ionic conductivity or an ionic conductivity that is significantly less than that of a material of the at least electrode so that an internal resistance of the ion-conducting solid electrolyte body in a lead region of the sensor is significantly greater than an internal resistance of the solid electrolyte body in a measuring region of the sensor, as recited in the context of claim 22. While the Office Action asserts that the electrodes disclosed by Friese '786 and Friese '901 references are "presumably made of platinum" and that "zirconia has an ion conductivity lesser than the Pt metal of the electrode", it is believed that any review of the Friese '786 and '901 references plainly reveals that a relative ionic conductivity content of the electrode in comparison with any other sensor component is not identically described (or even suggested), nor is the

internal resistance of the ion-conducting solid electrolyte body identically described (or even discussed or mentioned). Accordingly, since the features of claim 22 are plainly not identically described -- as they must be for anticipation -- by Friese '786 or Friese '901, it is respectfully submitted that claim 22 is not anticipated and is therefore allowable.

Claim 32 depends from claim 22, and is therefore allowable for at least the same reasons that claim 22 is allowable.

Claims 22 and 32 were rejected under 35 U.S.C. § 103(a) as unpatentable over Friese '786 or Friese '901 in view of Kato or Sano et al., United State Patent No. 4,379,741 ("the Sano reference").

As regards the Kato reference, like Friese '786 and Friese '901, it (as explained earlier) does not identically describe an electrode lead including a material that possesses no ionic conductivity or an ionic conductivity that is significantly less than that of a material of the at least electrode so that an internal resistance of the ion-conducting solid electrolyte body in a lead region of the sensor is significantly greater than an internal resistance of the solid electrolyte body in a measuring region of the sensor, as recited in the context of claim 22.

As regards the Sano reference, it purportedly concerns an oxygen concentration sensor including a solid electrolyte member 1 shaped like a cup, a first and second electrode 2, 3 made of platinum or of platinum family metal formed on the inner and outer periphery surfaces of the solid electrolyte member 1, a heat resistive and porous film 4 formed on the second electrode 3, a tubular housing 5, a heat resistive metal packing 6 to electrically connect the second electrode 3 to the housing 5, and a sealing material 12 to seal the entrance of the tubular housing 5 so as to electrically connect the first inner surface electrode 2 to an output terminal. (See Sano, Abstract, col. 1, Figures 1 and 2 and related text). It is respectfully submitted that the Sano reference does not identically describe (or even suggest) an electrode lead including a material that possesses no ionic conductivity or an ionic conductivity that is significantly less than that of a material of the at least electrode so that an internal resistance of the ion-conducting solid electrolyte body in a lead region of the sensor is significantly greater than an internal resistance of the solid electrolyte body in a measuring region of the sensor, as recited in the context of claim 22. Indeed, the Office Action does not allege that it does.

Accordingly, the secondary references do not cure the critical deficiencies of Friese '786 and Friese '901, and therefore also do not show or suggest in any way the features of claim 22.

It is therefore respectfully submitted that claim 22, and its dependent claim 32 are

allowable, and that this rejection should be withdrawn.

With further respect to the references relied upon and in view of the foregoing discussion of what those references purport to show, it is respectfully submitted that the Office Action does not establish a prima facie obviousness case at least because there is no suggestion or motivation in the references relied upon to combine or modify them as suggested by the Examiner. The case law and M.P.E.P. § 2143.01 make clear that a statement that combining or modifying the references would have been within the ordinary skill of the art at the time the claimed invention was made does not establish a prima facie obviousness case without supporting objective reasons to combine or modify the references.

New claims 45 and 46 do not add any new matter and are supported in the Specification. New claims 45 and 46 depend from claim 22, and are therefore allowable at least for the same reasons as claim 22.

In summary, it is respectfully submitted that all of claims 22 to 46 are allowable for the foregoing reasons.

CONCLUSION

In view of all of the above, it is believed that the objection and rejections have been obviated, and that claims 22 to 46 are allowable. It is therefore respectfully requested that the objection and rejections be withdrawn, and that the present application issue as early as possible.

Respectfully submitted,

Dated: 5/19/2003 By: Richard L. Mayer (By Reg. No. 33,865 Aaron C. Deditch)

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AMENDMENT VERSION WITH MARKINGS

IN THE SPECIFICATION:

The paragraph beginning on page 2, line 27, has been replaced with the following:

--[The] An exemplary embodiment and/or exemplary method of the present invention [achieves] provides that the internal resistance of a solid electrolyte body in a lead region between the electrode leads situated on [a] the solid electrolyte body is significantly higher than the internal resistance of the solid electrolyte body in a measuring region [that] between the corresponding electrodes [in question]. Thus, the contribution to the total resistance made by the internal resistance in the lead region of the solid electrolyte body, which is connected in parallel to the internal resistance in the measuring region of the solid electrolyte body, is significantly reduced. Thus, the influence of the internal resistance in the lead region on the temperature regulation [is] may be negligible. [An additional advantage] Additionally, from a standpoint of production engineering, [is that by dispensing with] an electrically insulating layer[,] may be dispensed with sot that a printing step [is] may no longer be [necessary] required.--.

IN THE CLAIMS:

Without prejudice, please add claims 45 and 46 as indicated above, and please amend the claims as follows:

22. (Amended) An electrochemical sensor for determining at least one of a gas component and a gas concentration in a gas mixture, comprising:

an ion-conducting solid electrolyte body;

at least one electrode situated on the ion-conducting solid electrolyte body; and

an electrode lead leading to the at least one electrode, wherein[:] the electrode lead includes a material that possesses one of no ionic conductivity and an ionic conductivity that is significantly less than that of a material of the at least one electrode so that an internal resistance of the ion-conducting solid electrolyte body in a lead region of the sensor is significantly greater than an internal resistance of the solid electrolyte body in a measuring region of the sensor.

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27. (Amended) The electrochemical sensor according to claim 25, wherein[:] the at least one electrode includes [an increased porosity as a result of adding] a pore-forming material to increase a porosity of the at least one electrode.

32. (Amended) The electrochemical sensor according to claim 22, wherein[:] the at least one electrode includes at least one of an internal pump electrode and a reference electrode, the internal pump electrode and the reference electrode being configured with [including] corresponding electrode leads of a measuring cell.

33. (Amended) An electrochemical sensor for determining at least one of a gas component and a gas concentration in a gas mixture, comprising:

an ion-conducting solid electrolyte body;

at least one electrode situated on the ion-conducting solid electrolyte body; and

an electrode lead leading to the at least one electrode, wherein[:] the electrode lead includes a material having a low resistance in comparison with a material of the at least one electrode so that a resistance of the electrode lead is less than a resistance of the electrode.

38. (Amended) The electrochemical sensor according to claim 36, wherein[:] the at least one electrode includes [an increased porosity as a result of adding] a pore-forming material to increase a porosity of the at least one electrode.

43. (Amended) The electrochemical sensor according to claim 33, wherein[:] the at least one electrode includes at least one of an internal pump electrode and a reference electrode, the internal pump electrode and reference electrode being configured with [including] corresponding electrode leads of a measuring cell.

44. (Amended) An electrochemical sensor for determining at least one of a gas component and a gas concentration in a gas mixture, comprising:

an ion-conducting solid electrolyte body;

at least one electrode situated on the ion-conducting solid electrolyte body; and

an electrode lead leading to the at least one electrode, wherein:

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the electrode lead includes a material having a low resistance in comparison with a material of the at least one electrode so that a resistance of the electrode lead is less than a resistance of the electrode, and

the material possesses one of no ionic conductivity and an ionic conductivity that is significantly less in comparison with the material of the at least one electrode so that an internal resistance of the ion-conducting solid electrolyte body in a lead region of the sensor is significantly greater than an internal resistance of the solid electrolyte body in a measuring region of the sensor.